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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,590	02/12/2004	Shinichi Mihara	12577/29	3479

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WASHINGTON, DC 20005

EXAMINER

PRITCHETT, JOSHUA L

ART UNIT	PAPER NUMBER
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2872

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.		Applicant(s)	
	10/776,590		MIHARA, SHINICHI	
	Examiner		Art Unit	
	Joshua L. Pritchett		2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 5, 6 and 9-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 7, 8 and 20-25 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to Election filed January 4, 2007. Applicant elected the sixth embodiment of the invention as shown in Fig. 8.

Election/Restrictions

Applicant's election without traverse of claims 1-4 and 6-25 as part of the sixth embodiment as shown in Fig. 8 in the reply filed on January 4, 2007 is acknowledged. Examiner disagrees with applicant's assessment of the claims that read on the sixth embodiment. Specifically examiner does not believe claims 6 and 9 are shown in Fig. 8 or mentioned in the specification in the discussion of the sixth embodiment. Referring to claim 6, Fig. 8 fails to show any movable lens group and the specification fails to mention a movable lens group. Referring to claim 9, the specification fails to mention a zoom lens in either embodiment six or embodiment five (to which the discussion of the sixth embodiment refers). Therefore claims 6 and 9 are not part of the elected species and will not be examined. As such the claims depending from claims 6 and 9 will not be examined. The claims that will be examined are claims 1-4, 7, 8 and 20-25.

Claim Objections

Claim 2 is objected to because of the following informalities: claim 2 includes two sentences and a claim may only be one sentence. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, 7, 8 and 21-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Utagawa (JP 590113421).

Regarding claims 1 and 22, Utagawa discloses a first optical element (P1) having at least one flat surface (contacting 3) and two transparent surfaces (receiving and emitting light Fig. 10), chemical substance (2) which enables to change light transmittance (page 5) by chemical change according to electric quantity, a second optical element (1) having a reflective surface (page 5) and an optical system having an optical component which is arranged so as to sandwich the chemical substance by one surface of the first optical element and one of the surfaces of the second optical element (Fig. 10).

Regarding claim 2, Utagawa discloses the claimed transmittance ratio (Fig. 4A). The Utagawa reference shows the transmittance being substantially constant at 440nm, 520nm and 600 nm so the ratio would be approximately 1.0 which fits within the claimed ranges.

Regarding claim 4, Utagawa discloses a lens group at the utmost image side of the optical system is fixed when magnification is change (Fig. 14). Utagawa makes no mention of moving the lens group and the drawings do not show any movement therefore the examiner interprets the Utagawa invention as having a stationary lens at the utmost image side.

Regarding claim 7, Utagawa discloses a prism (P1) and at lest one reflective surface (1) for bending an optical path (Fig. 10).

Regarding claims 8 and 23, Utagawa discloses the first optical element is the prism, the chemical substance is arranged so as to be contacted with one of the flat surface of the prism and the second optical element is arranged so that the flat surface of the second optical element is contacted with the chemical substance from an opposite side of the prism and one of the optical surfaces of the second optical element is constituted as a reflecting surface for bending the optical path (Fig. 10).

Regarding claim 21, Utagawa discloses means for controlling electrically an electric signal in relation with a picture image obtained from a state of the optical system and the imaging element and transmittance of the medium respectively (page 5).

Regarding claim 24, Utagawa discloses the second optical element is a parallel plane board (Fig. 10).

Regarding claim 25, Utagawa discloses the radius of curvature for the first and second optical element surfaces touching the chemical substance are parallel (Fig. 10). Parallel surfaces would render the claimed ratio to be zero which is within the claimed range.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Utagawa (JP 590113421).

Regarding claim 20, Utagawa teaches the invention as claimed but lacks reference to the claimed refractive index. It is extremely well known in the art to make optical elements out of silicon which has a refractive index of 1.68 or greater. Official Notice is taken. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the prism made of silicon as is known in the art for the purpose of using a material with known optical properties that is readily available to achieve desired and precise results in a cost effective manner.

Allowable Subject Matter

Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

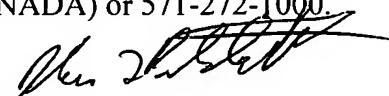
The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to teach or suggest the claimed relationship between the F value and the pixel pitch as claimed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L. Pritchett whose telephone number is 571-272-2318. The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Joshua L Pritchett
Examiner
Au2872